

**Glossary of Terms/Definitions compiled from sheep industry documents that relate to wool or sheep:**

Term/Acronym	Description
µm	Symbol used for micron (micrometre) used in describing the fineness of a fleece sample
AASMB	Organisation – Australian Association of Stud Merino Breeders
Accuracy	A measure of the closeness of a test result to the true value. The difference between accuracy and precision should be noted. See also bias, precision, confidence limits.
Across-breed	Comparison of sheep across different breeds within a breed group
Across-flock	Comparison of sheep across different flocks within a breed group
AGBU	Organisation - Animal Genetics and Breeding Unit
Age Stages	A definition of stages of animal in age groupings used to calculate estimated breeding values (ebvs) eg. Birth, weaning, yearling, adult
AI	Artificial insemination (of semen to achieve a pregnancy)
Airflow	A method of measuring the mean fibre diameter of a sample of wool in which a test specimen (a measured mass of the scoured, dried and carded sample), after exposure to a conditioning atmosphere, is compressed to a fixed volume and a current of air is passed through it. The rate of flow is then adjusted so that the pressure drop across the sample equals a predetermined value. The rate of flow is an indicator of the mean fibre diameter of the wool in the sample. The instrument is calibrated to international standard wool tops of known fineness.
AMSEA	Organisation - Australian Merino Sire Evaluation Association
AS	Australian Superfine - Fleece typing terminology
ASBV	Australian Sheep Breeding Values - genetic breeding value produced by Sheep Genetics for a given analysis across-flock
ASID	Australian sheep identification system - unique 16 digit ID made up from Breed Code (2 digits), Flock Code (4 digits), Year date (4 digits), Individual id (6 digits).
ATLAS	Automatic Tester of Length and Strength - a computer controlled instrument with measures the staple length, staple strength and position of break of individual samples.
AWEX	Organisation - Australian Wool Exchange
AWI	Organisation - Australian Wool Innovation
AWTA	Organisation - Australian Wool Testing Authority
bias	A constant or systematic difference between a true value and corresponding test results.
BLUP	Best linear unbiased prediction - a statistical method used to calculate estimated breeding values such as ASBVs, FBVs & EBVs
Body Wrinkle	Quantity and quality of wrinkle on the body of a sheep with Score 1 being very little wrinkle and 5 the most.
Breed Codes	Codes given to Sheep Breeds by Sheep Genetics for grouping into analysis runs; - eg. 50 = Merino; 60 = Poll Merino; also codes used in formulation of SGID/ASID for individual sheep.
Breed Group	Defines Sheep under recognised industry breeding outcomes - eg. Merino, Terminal, Maternal breed groups
Breed Type	Define Fleece Breed types under recognised industry standards from WIEDPUG- eg. AS (Australian Superfine), M (Merino), X (Crossbred), D (Downs), T (Carpet), Sheds Fibre (
Breeding Objective	Goals of the breeding program using a combination of traits to be recorded and selected to assist in performance goals
BWFW	Acronym for Bred Well Fed Well Education/Extension Program
character	a subjectively assessed characteristic of greasy wool related to crimp and staple definition
Clean fleece weight (CFW)	The clean fleece weight of the fleece measured in kg and calculated by multiplying the greasy fleece weight by the yield % divided by 100

Coarse Edge of FD Percentage (CEM%)	Percentage of microns 10 microns above the mean
Coarse Edge of micron (CEM)	Fibre Diameter Coarse Edge is the difference in microns between the mean diameter and the broadest 5 percent of fibres
Coefficient of variation	A statistical measure for the variation within a range of values. It expresses the standard deviation as a percentage of the mean. The higher the CV , the greater the variability. (An example of calculating CV is FDCV = SDx100%/FD)
Colour	(a) In fleece at scouring - the fleece colour is the unscourable colour portion of the fleece as measured by AWTA standard for yellowness. (b) Also used as a term to describe the visual colour appearance of a fleece on the actual sheep. (c) a term also used to describe the colour of the actual sheep - eg. black, white, coloured.
Comfort Factor (FCF)	AWTA Glossary of Terms - percentage of fibres finer than 30 microns in a sample (100% is the optimum level for against skin wool apparel)
Counts	Visual method of grouping wool types, common amongst wool buyers prior to objective measurement eg. 64's/66's/70
crimp	the waviness of a fibre, expressed numerically as the number of complete waves per unit length; crimp is usually taken as an indicator of mean fibre diameter, the higher the number of crimps per unit length, the finer the wool.
crimp definition	the degree of alignment of the crimp waves within a staple
crimp frequency	the number of crimp waves per centimetre of staple length (see also curvature)
curvature	a measure of crimp reported as degrees/mm (see also crimp)
Dark & Medullated Fibre Risk	Risk factor assessed based on wool being contaminated with shedding animals (goats/dorpers etc)
Dehorned	Where the horn has been removed leaving little or no protrusion of horn from the skull
Dentition	Score based on the number of incisor teeth present in the sheep
Dermatitis	A distortion of the fleece, often when an animal is unwell, that creates an often hard substance on the skin and in the wool. Devalues fleece value. (Slang version of dermatitis is 'DERMO'.
DR%	Dressing percentage as describing carcass
EBV	Estimated breeding value using BLUP method
EMD	Eye muscle depth - usually measured by ultrasound
EMW	Eye muscle width
ET	Embryo Transfer (assisted reproduction in which embryos are placed into the uterus of a female with the intent to establish a foetus)
Face Cover	The amount of wool cover on face with 1 being very open and 5 being very muffled
FAT	Different types of Fat are visually assessed, scored by ultrasound technology or measured - there are several sites on the sheep where this is performed at both liveweight and carcass. Measured usually at the 'C' site and 'GR' site.
FBV	Flock Estimated breeding value using BLUP method - terminology used by Sheep Genetics where data does not meet requirements to produce an ASBV, eg. Not full pedigree
FEC	Faecal (worm) egg count (see also WEC)
Fibre diameter (FD/ $\mu$ m)	Fibre diameter, usually described as FD or Micron ( $\mu$ m), is the thickness of individual fibres; it is customary to quote an average value (mean FD) in micrometres. See also $\mu$ m.
Fibre less than 15 (FIBR<15)	It is the percentage of fibres less than 15 microns in the sample tested
Fleece rot	The degree of fleece rot present on the fleece with 0 being no fleece rot and 5 being a high level of fleece rot
GE	Genetic evaluation
GEBV	Genomic prediction of EBV

Generation interval	The time interval between generations, defined as the average age of parents when their progeny are born
Genetic correlation	The genetic relationships that exist between traits
Genetic linkage	When two or more flocks share common genes
Genomics	Study (research) of genes - in current sheep research -finding/identifying DNA markers for particular genetic traits
Genotype	A combination of the genes of the sheep
GR site	110mm from the centre of the spine at the last long rib
Greasy fleece weight (GFW)	The weight in kg of the whole fleece (including belly) prior to skirting
Hauteur	the average of the length-biased distribution of fibre length in a top. It is obtained by sorting a sample of the sliver into length classes and calculating the average of the number of fibres of each length class. Hauteur is usually regarded as a numerical average although this assumes no relationship between fibre length and fibre diameter. An important measure for wool buyers in making up wool consignment lots.
Heritability	The average proportion of the difference between sheep (after adjusting for known non-genetic influences) that can be passed on to their progeny through their genes
Hogget	Description initially used by sheep classifiers for an unshorn lamb or weaner; now more broadly used in scientific terminology to describe a sheep from 12 - 18 months and used in Sheep Genetics analysis to describe a sheep after 12 months and prior to Adult, probably a 2-tooth.
Horned	Where the horn(s) is/are either intact or partially removed
IMF	Intra muscular fat - determines flavour & juiciness - an IMF breeding value should be positive to indicate good IMF
Index	Breeding value shown as a % of the group being considered when particular traits are weighted to meet a breeding objective
Index - DP+	Dual purpose plus breeding objective - sheep breeding value/ traits contribution to economic gain based on meat focussed production system where surplus progeny are sold as lambs & a portion of ewes are joined to terminal sires. High increase in carcass traits & fleece weight, moderate increase in reproduction, fibre diameter maintained, maintain/small increase in staple strength.
Index - Fine 20%+SS	Fine 20% index plus Staple Strength breeding objective - sheep breeding value/ traits contribution to economic gain based on a high emphasis on fibre diameter and staple strength. There is adequate emphasis on other traits to maintain performance except of moderate reduction in reproduction (Number of lambs weaned NLW).
Index - FP+	Fibre Production plus breeding objective - sheep breeding value/ traits contribution to economic gain based on a wool focussed wool production system where wethers are retained, operating in an environment where worms cause economic losses. Large reduction in fibre diameter, large increase in staple strength, moderate reduction in WEC, small increase in fleece weight. Little change in carcass traits and reproduction.
Index MP+	Merino Production plus breeding objective - sheep breeding value/ traits contribution to economic gain based on balanced meat & wool production system where surplus progeny are sold as hoggets. Moderate increase in fleece weight, staple strength, carcass traits & reproduction, moderate reduction in fibre diameter.
INF (INF Flock/CRC INF)	Reference population or Reference Flock - as described in research programs
IWTO	Organisation - International Wool Textile Organisation
Join / Joining	Terminology used in sheep industry (particularly in Merino breeding) to describe the process of mating selection
kilotex (ktx)	the linear density of a staple expressed in grams per metre. It is the unit of thickness used in calculating staple strength for which the unit is Newtons per kiltex
Lamb	Baby sheep is called a lamb. Usually described as a lamb
Lamb ease	Ease of birthing of lamb for ewe

LAMBPLAN	Brand and reporting name for Sheep Genetics Analysis & Marketing for Terminal & Maternal sheep breeds
laserscan	an instrument that detects shadows of fibre snippets in a laser beam as they are carried in solution through the beam, developed for improved performance in measuring Mean Fibre diameter and finess distribution
LMY	Lean meat yield
LTEM	Life time Ewe Management (ususally referring to Ewe management extension program offered to sheep breeders)
Marble	The amount of marble (intramuscular fat) in the meat to retain flavour and tenderness - see also IMF
Maternal weaning weight	data not submitted but units reported in kg
Maximum Fibre Diameter	Maximum fibre diameter measured in microns of fibres tested
mean	arithmetic average; the mean of a set of values is calculated by dividing the sum of those values by the number of them
Medullated Fibre	hair found in fleece wool (usually from sheep that shed hair/dogs/etc)
Merino Superior Sires	see MSS
MERINOSELECT	Brand and reporting name for Sheep Genetics Analysis & Marketing for Merino sheep breeds
Micron	Derived from micrometre - a unit of length measurement equal to one millionth of the metre, it is the unit of measurement for fibre diameter of wool. The result is commonly called a micron. The symbol ' $\mu\text{m}$ ' is used for micrometre. (See also Fibre Diameter)
Micron deviation	Deviation from the tested Group's average micron
mid-side sample	In wool - a sorn wool sample of approximately 30 grams taken from the mid-side of a sheep
Minimum Fibre Diameter	Minimum fibre diameter measured in microns of fibres tested
MLA	Organisation - Meat & Livestock Australia
MSS	Merino Superior Sires - sire evaluation publications undertaken by the Australian Merino Sire Evaluation Association
MSS	Merino Super Sires - publication of results from AMSEA
NEFT	Fleece Testing business - New England Fibre Testers
Nemesis	Research undertaken to understand genetics of sheep worm resistance, results being used in industry to breed for low WEC
newton	the unit of force in the SI system; a force of one kilogram is equivalent to about 9.8 newton (N)
NLB	Ratio of number of lambs born to number of ewes joined
NLW	Ratio of number of lambs weaned to number of ewes joined
noil	In wool - the short fibres removed during the combing process; it comprises second cuts, pieces of broken fibres, neps, and is contaminated by small pieces of vegetable matter
Objective measurement (OM)	a system in which the characteristics of greasy wool (or other factors) are specified by measurement rather than by descriptive terms resulting from subjective appraisal
OFDA	Optical Fibre Distribution Analyser - an instrument for measuring fibre diameter mean and distribution using automated microscope and image analysis techniques
OVIS	Name of the BLUP software used to calculate breeding values
Phenotype	Observable performance of a sheep trait that can be measured or scored (eg. Dag)
point of break (PoB)	Position or point of break - an indication of where a staple breaks during extension (under exertion), determined by comparing the masses of clean wool in the broken portions of the staple. It does not imply that a (natural) break exists in the staple. Measured for base, mid and tip staple points of break as a %.
Poll	Where the sheep is hornless (polled) as a genetic attribute (may show some evidence of scurs)
precision	an indicator of the repeatability of a measurement; it is often expressed in terms of confidence limits (See also accuracy)

Prickle Factor	Percentage of fibres stronger than 30 microns in the sample. NOTE: This terminology and calculation has been superceded and should no longer be used - it is now replaced with Comfort Factor which is the comfort factor of wool fibres felt against the skin of less than 30 microns.
Progeny test	Progeny from randomly mated ewes/sires run under identical conditions to obtain an unbiased comparison of sires through their progeny
RBV	Research breeding value (sometimes reported as ASBVR)
Regain	the mass of moisture in a mass of textile fibres determined under prescribed conditions, expressed as a percentage of the clean over-dry mass of fibre. Most wool is traded on the basis of its mass at regains specified by IWTO regulations
RWT	Fleece Testing business - Riverina Wool Testers
Schlumberger Yield	Schlumberger dry combing fleece yield - Fleece Yield as calculated by Schlumberger Combed Dry (1 percent TFM)
Scored Traits	See visual traits
Scurs	Scurs - where there is evidence of some small part of the horn forming
Selection criteria	Traits (and data) used in an evaluation for a particular breeding objective
Service sires (SS)	In research this term is used to describe the rams that are being used in a joining program. In research this abbreviation is used for 'service sires', in fleece descriptions it is used to abbreviate staple strength
SF (SF1-5)	Shear force score (1 is good/5 is bad) to describe tenderness of meat
SG	Organisation - Sheep Genetics
SGID	Identification using a unique 16 digit ID to identify an individual sheep across all breeds made up from Breed Code (2 digits), Flock Code (4 digits), Year date (4 digits), Individual id (6 digits). See also ASID.
Shearforce (SF)	A test undertaken on the carcase to that describes the amount of pressure required to determine the tenderness of the meat, measured 1 - 5 and at cooking as well
SNP Chips	A description of the various components of genes identified in genomics program
Spinning fineness	Spinning Fineness is a number which attempts to combine the Mean Fibre Diameter (FD) and the Coefficient of Variation of Diameter (FDCV) into a single measure of fineness to estimate the performance of wool when it is spun into yarn
Stages	Often used to describe the age stage of sheep data being analysed.
Standard deviation (SD)	a measure of dispersion of individual results. Standard deviation is expressed in the units of measurement. (See also variance and coefficient of variation)
staple	a well defined bundle of fibres which has been removed from a mass of greasy wool as a unit. In staple length and staple strength measurement, staples are considered to include second cuts
staple length	the length of a staple projected along its axis obtained by measuring the staple without stretching or disturbing the crimp of the fibres
staple strength (SS)	the maximum force required to rupture a staple per unit of average linear density. Described as a measure of newtons per kilotex (See also ATLAS)
suint	water soluble component (sweat) extruded from the wool follicles
tender wool	wool for which a significant proportion of staples exhibit a marked weakness, at corresponding points in all the fibre of the staples
test house	a laboratory which carries out tests in accordance with the current IWTO test methods and regulations. In order to issue IWTO Test Certificates, the laboratory must be a licensed laboratory
Testicles	Testicles of ram - normally 2 testicles
TGRM	Total Genetic Resource Management - computer software used to optimise genetic gain and inbreeding
Trait codes	A set of trait codes used to describe the various traits collected for analysis, particularly Sheep Genetics
Trait stages	A set of stages set by age of animal into which it is grouped for analysis, particularly Sheep Genetics.

variance	the variance of a sample is the square of the standard deviation and is a measure of the distribution of values around the mean. It is expressed in the units of measurement squared
vegetable matter (VM)	burrs (including hard heads), twigs, seeds, leaves and grasses present in wool
Visual Traits	Traits of a sheep that are visually assessed - and usually are difficult/too expensive/or cannot be scientifically measured
WEC	Worm egg count (see also FEC)
WIEDPUG	Organisation - Wool Industry EDP User Group
Wool Appraisal	an estimate of the value-determining characteristics of a parcel of wool, based on subjective judgement but sometimes assisted by objective measurement
Yearling	Scientific terminology now used to describe a 12 month old sheep.
Yield	the amount of clean fibre, at a standard regain (calculated by IWTO Scoured Yield at 16 percent Regain) that is expected to be produced when a delivery of raw wool is processed. The yield may be expressed both as a clean mass in kilograms and as a percentage of the mass of raw wool prior to processing. (See also Schlumberger Yield)
2-tooth	A sheep that has changed from having only lamb's teeth, to having two adult teeth, often happening at a variable age, not always at 2 year old as might be expected.
4-tooth	A sheep that has changed from having only 2 adult teeth to having 4 adult teeth - usually 4 year old and an adult sheep.

